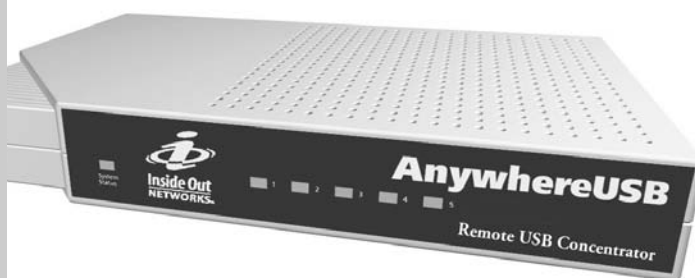


AnywhereUSB

## REMOTE I/O CONCENTRATOR

### Installation Guide



Inside Out  
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Connectware™

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# AnywhereUSB

## Introduction

The AnywhereUSB™ Remote I/O Concentrator is the first remote networking solution to utilize USB Over IP™ technology, breaking the traditional five meter distance limitation between USB device and host. Now USB devices may be located anywhere on a wired or wireless LAN – without a locally attached host PC. Since the host PC or server may be located remotely, AnywhereUSB enables devices to be deployed in harsh or non-secure environments, making it ideal for point-of-sale, kiosks, surveillance, industrial automation, or any mission-critical enterprise application. This Ethernet-attached solution provides five USB ports to connect peripheral devices like bar-code scanners and receipt printers, as well as our Watchport/V USB Camera and Watchport Sensors.

## Installing Drivers

### For Windows XP and 2000 Users

You must install the drivers using an account that has administrative privileges.

1. Insert the “AnywhereUSB Driver” CD into your CD drive.
2. Open the CD folder and double click on the Setup.exe program.

This installs the system driver and creates the AnywhereUSB Start menu item.

You may proceed to the next section, “Cabling AnywhereUSB.”

## Cabling AnywhereUSB

In order to configure an AnywhereUSB concentrator, it must be connected on the same LAN subnet as the PC running the configuration utility. Configuration will not pass through a router.

To connect your AnywhereUSB:

1. Connect one end of the power supply\* into the back of your AnywhereUSB and the other end into an AC outlet.
2. Connect a standard Ethernet network cable to your AnywhereUSB. Then connect the other end of the Ethernet cable to a 10/100 BaseT hub or switch.

\*Power to this product may be supplied by a UL Listed Direct Plug-In Power Unit marked “Class 2” or a UL listed power supply rated with a minimum rating of 5 V dc 2.5 A if used in the U.S. and Canada or a power supply with similar rating and approved by your local safety code if it is used elsewhere. For polarity, see the following:



## Configuring Your Concentrator

In order to configure your AnywhereUSB concentrator:

1. Launch the AnywhereUSB Configuration Utility from the Start menu. The utility displays a list of discovered AnywhereUSB concentrators on your local subnet.

**Note that the concentrator must be on the same local area network and in the same subnet as the configuration PC in order for it to appear on the discovery list. The configuration utility will not discover concentrators across network routers.**

2. You can identify each concentrator by its serial number. Select a concentrator and either double click or right click and select Configure Concentrator in order to set the IP address, subnet mask, and default gateway.
3. You must click on the Update button and reset the device in order for the changes to take effect.

## Configuring Your Host PC

In order to configure a Host PC to access the concentrator:

1. Launch the AnywhereUSB Configuration Utility from the Start menu. The utility displays a list of all AnywhereUSB concentrators on your local subnet.
2. Select a concentrator, right click, and select Connect to Concentrator to add the concentrator's IP address to the Concentrator Connection List.

If you need to connect to a concentrator that does not show up in the discovery list (not on your local subnet), you must select Concentrator Connection List from the Edit menu to add the IP address of this concentrator to your host PC.

The Concentrator Connection List editor also allows you to Add, Modify, and Remove concentrators from this Host PC.

## Uninstalling the Drivers

In order to uninstall the AnywhereUSB drivers

1. Launch the AnywhereUSB Configuration Utility from the Start menu.
2. Select Preferences from the File menu and click on the Uninstall button. You must reboot your PC in order to complete the driver removal.

## Interpreting Status Lights

The AnywhereUSB Concentrator has 6 LEDs on the front panel, the System Status LED and 5 hub LEDs. Each LED is capable of displaying 3 colors, red, green, or orange.

### System Status Lights

On initial power up the system status LED is orange for 2 seconds while the system initializes and then blinks green.

### Hub Lights

*Green hunting pattern across all LEDs* Not connected to a host.

*Orange alternating on ports 1-3-5 and 2-4* Updating image in Flash. **Do not remove power from concentrator while flash is being updated.** Doing so will damage your concentrator.

*Solid Green* Device is connected to hub port.

*Fast Red* Power error detected on hub port.

*Slow Red* Device is connected to hub port but device error

*Green over Red hunting pattern* Please call customer service.

## Using the Configuration Utility Menu

### File Menu: Preferences

Allows you to disable or modify the frequency in which the utility updates its discovered concentrator list. Enables the logging of driver events to the system event log and allows you to uninstall the drivers

### Edit: Concentrator Connection List

Contains the IP addresses of the AnywhereUSB concentrators to which this Host PC will try to connect. When an IP address is added to this list, the Host PC immediately tries to connect to the concentrator. If an IP address in this list refers to a concentrator that is connected to this PC, and that address is deleted, all USB devices attached to this concentrator will be removed from this Host PC.

### **Concentrator: Configure Concentrator**

Allows you to set up the TCP/IP parameters in the concentrator. You also have the option to add this IP address to the Concentrator Connection List by checking the Connect to this Concentrator box.

The debug log address refers to the IP address of a networked PC that can be used to log debug information from the concentrator. You must run the AwUsbLog application, located on the CD, in order to capture the logging information.

### **Concentrator: Connect to Concentrator**

Adds the IP address of the Concentrator to the Concentrator Connection List.

### **Concentrator: Concentrator Information**

Displays information about the concentrator such as: Version numbers, IP Address and Mask.

### **Concentrator: Reset Concentrator**

Causes the Concentrator to reboot.

### **View: Refresh Concentrator List**

Updates the Discovered Concentrator List.

### **View: Driver Information**

Displays the version numbers of the AnywhereUSB drivers. This dialog also allows you to uninstall the drivers.

## **Understanding Hubs**

Hubs, critical components in the plug-and-play architecture, are wiring concentrators that enable the attachment of multiple devices, thus converting a single attachment point into multiple attachment points. USB architecture allows a cascaded multiple hub configuration with

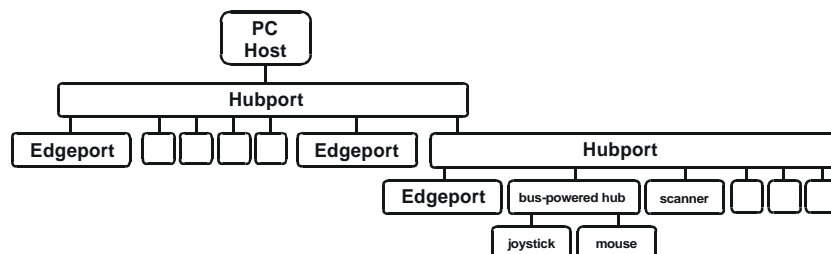


Figure 1: Example of a Typical Hub Configuration

certain power limitations (explained later in this section). See figure 1.

Each hub has an upstream port, connecting to the host, and multiple downstream ports, connecting to downstream devices, including other hubs. A hub can detect attachment and detachment of downstream devices and enable and monitor the distribution of the power to downstream devices via their integral hardware and the operating system.

Each USB device reports its power requirements to the operating system, which then enables and disables the device as a function of its power requirements and the amount of available power. High-speed devices typically need to be connected to a self-powered hub, which obtains power from its external power supply and provides up to 500 mA for each downstream port. Only simple devices, such as a mouse, can be connected to a bus-powered hub, which obtains power from its upstream host and provides up to 100 mA for each downstream port.

Due to the limited available power for bus-powered hubs, cascading two bus-powered hubs is an illegal topology, and devices connected to the second hub will not function. *(USB specifications limit the connection of a bus-powered hub to a self-powered hub or host only.)*

According to the USB Specification, the maximum limit of hubs cascaded in series cannot exceed five. In other words, you may have a maximum of five hubs between any device and the host. This does NOT mean that the maximum number of hubs in a system is five. Indeed, up to seven hubs can be connected parallel *at any given level*. You must tally both external and embedded hubs when counting downstream hubs. Since several of Inside Out Networks' products contain embedded hubs, the following lists their respective "hub equivalents."

Edgeport/2 = 0	Edgeport/21 = 1	Edgeport/42 = 1
Edgeport/4 = 0	Edgeport/421 = 1	Edgeport/412 = 1
Edgeport/8 = 0	Edgeport/416 = 1	

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### ***Federal Communications Commission (FCC) Regulatory Information (USA only)***

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet that is on a circuit different from the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: The connection of a non-shielded interface cable to this equipment will invalidate the FCC Certification for this device.

### **FCC Regulation - Part 15**

#### **Declaration of Conformity (DoC)**

This device complies with the requirements of the Code of Federal Regulations listed below:

FCC Title 47 CFR, Part 15 Class B for a digital device.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

#### **Department of Communication (DOC) Notice (Canada only)**

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouiller du Canada.

### **European Community - CE Mark**

#### **Declaration of Conformity (DOC)**

According to ISO/IEC Guide 22 and EN 45014

**Manufacturer's Name:** Inside Out Networks

**Manufacturer's Addr.:** 7004 Bee Caves Rd.  
Bldg. 3, Ste. 200  
Austin, TX 78746 USA

**declares that the product**

**Product Name:** AnywhereUSB  
**Model Number(s):** 301-1130-01

**Product Options:**All

**conforms to the relevant EU Directives listed here:**

EMC Directive 89/336/EEC |  
Low Voltage Directive 73/23/EEC  
Amending Directive 93/68 EEC

**using the relevant section of the following EU standards and other normative documents:**

**Safety:** IEC 950:1991 +A1, A2, A3, A4  
EN 60950:1992 + A1, A2, A3, A4

#### **EMC**

The following summarizes the specifications and requirements for EN55024, EN55022 Class B & CISPR 22 Class B emission and immunity tests. If the actual test levels are higher or different than required, these levels are listed in the appropriate tables.

#### **EN 55022 Class B (1994 w/A1 1995)**

Test	Specification EN55024	Requirement
Electrostatic Discharge	EN61000-4-2	+4 kV contact +8kV air
Radiated Immunity	EN61000-4-3	3 V/m
Electrical Fast Transient Burst	EN61000-4-4	1kV (A/C), .5kV (I/O)
Surge	EN61000-4-5	2kV common mode 1kV differential mode
Conducted Immunity	EN61000-4-6	3V rms
Magnetic Immunity	EN61000-4-8	<b>1 A/m Not Applicable</b>
Voltage Dips & Interrupts	EN61000-4-11	>95%, 30% & >95%

#### **EN55024 (1998)**

Test	Specification EN55022	Requirement
Radiated Emissions	—	Class B
Conducted Emissions	CISPR 22	Class B

#### **European Contact**

Digi International  
Joseph-von-Fraunhofer Str. 23  
44227 Dortmund, GERMANY  
49-231-9747-0

#### **UL/CSA Safety Information**

This device complies with the requirements of following safety standards below:

UL 1950, 3rd edition  
CSA No. 950

Quality Manager  
Austin, Texas  
05/03



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